# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| | : | **PATENT APPLICATION** |
| In re Application of: | : | |
| | : | COMMUNICATION NETWORK |
| Ralf Neuhaus et al. | : | COMPRISING COMMUNICATION |
| | : | COMPONENTS HAVING CLIENT AND |
| Application No.:  10/520,681 | : | SERVER FUNCTIONALITIES AND |
| | : | SEARCH FUNCTIONS |
| Filed:  January 7, 2005 | : | |
| | : | Group Art Unit:  2449 |
| Confirmation No.:  5198 | : | |
| | : | Examiner:  Ashok B. Patel |

## APPLICANTS' BRIEF ON APPEAL

Pittsburgh, Pennsylvania  15219
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**Real Party in Interest**

The real party in interest is Siemens Enterprise Communications GmbH and its related

United States company Siemens Enterprise Communications Inc.

**Related Appeals and Interferences**

There are no related appeals and/or interferences.

**Status of Claims**

Claims 8-9, 14-18, 22-25, 28-29 and 31-32 are currently pending in the application. The

status of the claims is that claims 8-9, 14-18, 22-25, 28-29 and 31-32 have been rejected. Claims

1-7, 10-13, 19-21 and 26 have been cancelled. Applicants are appealing the rejection of claims

8-9, 14-18, 22-25, 28-29 and 31-32.

**Status of Amendments**

A Response to Final Office Action was filed by Applicants on April 27, 2010 in response

to the Final Office Action, which issued on February 18, 2010 (hereinafter "Final Office

Action"), from which this appeal is taken. The claim amendments in Applicants' Response were

entered by the Examiner in an Advisory Action, which issued on May 7, 2010 (hereinafter

"Advisory Action").

**Summary of Claimed Subject Matter**

The pending claims are directed toward a method of communicating in a network having

communication components having client and server functionalities and search functions, and a

network that may be configured to utilize such a method. (Specification, para. 0002, page 1, lines 9-11).[1] There are no means plus function clauses in any of the pending claims.

Claim 8 is an independent claim and is directed toward a communications network having a plurality of communication components, at least some of which comprise both client and server functionalities. (Figure, ref. nos. A1-A4, B1-B11; Specification, para. 0012, page 3, lines 29-32; para. 0023, page 5, lines 6-7). At least some of the client functionalities include a search function that ascertains network addresses of others of the communication components that allow the server functionalities of the others to be used. (Figure, ref. nos. A1-A4, B3-B11; Specification, para. 0012, page 3, line 29 to page 4, line 4; para. 0025, page 5, lines 18-27; para. 0030, page 6, lines 21-28). The communication network further includes a retrieval mechanism in at least some of the client functionalities that obtains information about the server functionalities of the other communication components. (Specification, para. 0025, page 5, lines 21-27; para. 0031, page 6, line 29 to page 7, line 2). The server functionalities provide usable services in the communication network. (Specification, para. 0008, page 3, lines 10-19; para. 0010, page 3, lines 25-27). A server functionality is selected for use by a client functionality using state information which comprises a current utilization level of each of the server functionalities and the cost to use each of the server functionalities. (Specification, para. 0017, page 4, lines 18-20). Each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components. (Specification, para. 0031, page 6, line 29 to page 7, line 2; para. 0034, page 7,

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[1] Citations to the specification are to the Substitute Specification filed on January 7, 2005. In addition to specific citation to page and line numbers, citation is also made to paragraph numbers to help make the cited portions of the specification more clear. It should be appreciated that citation to a particular portion(s) of the specification indicates that there is at least support for those limitation(s) at the cited portion(s) of the specification.

lines 9-13). Each of the communication components maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeating search at timed intervals. (Specification, para. 0037, page 8, lines 4-6; para. 0038, page 8, lines 12-22).

Claim 9 depends from claim 8 and recites that the communication network provides for a self-administration on the basis of the information ascertained by the search functions. (Specification, para. 0014, page 4, lines 6-10).

Claim 14 depends from claim 8 and recites that the client functionality is designed to retrieve an authorization before using a server functionality. (Specification, para. 0018, page 4, lines 21-23).

Claim 15 depends from claim 14 and recites that at least one server functionality is provided for managing the authorization. (Specification, para. 0019, page 4, lines 24-25).

Claim 28 depends from claim 8 and recites that one of the communication components performs a gateway search for a gateway among the neighboring communication components in the servant list. (Specification, para. 0034, page 7, lines 9-13). A first of the neighboring communication components comprises a first gateway, and returns a first hit response to said one communication component. (Specification, para. 0034, page 7, lines 13-16). A second of the neighboring communication components does not comprise a gateway, and forwards the gateway search to additional neighboring communication components of the second neighboring communication component. (Specification, para. 0034, page 7, lines 16-18). One of the additional neighboring communication components comprises a second gateway, and returns a second hit response to said one communication component. (Specification, para. 0034, page 7, lines 18-21).

Claim 29 depend from claim 28 and recites that one of the communication components chooses one of the gateways for use based on a respective number of available channels on each gateway and a respective propagation time for the first and second hit responses. (Specification, para. 0035, page 7, lines 22-32).

Claim 16 is an independent claim and is directed toward a method of communication within a network including a plurality of communication components with both client and server functionalities. (Figure, ref. nos. A1-A4, B1-B11; Specification, para. 0012, page 3, lines 29-32; para. 0023, page 5, lines 6-7). The method includes the step of ascertaining via a search function of the client functionality of at least some of the communication components and address of at least some others of the communication components that allow the server functionalities of said some others to be used. (Figure, ref. nos. A1-A4, B3-B11; Specification, para. 0012, page 3, line 29 to page 4, line 4; para. 0025, page 5, lines 18-27; para. 0030, page 6, lines 21-28). The method further includes the step of retrieving information about the server functionality of some others of the communication components by the client functionality of at least some of the communication components. (Specification, para. 0025, page 5, lines 21-27; para. 0031, page 6, line 29 to page 7, line 2). The server functionalities provide services in the communication network. (Specification, para. 0008, page 3, lines 10-19; para. 0010, page 3, lines 25-27). One of the server functionalities is selected for use by one of the client functionalities using state information which comprises a current utilization level of each of the server functionalities and the cost to use each of the server functionalities. (Specification, para. 0017, page 4, lines 18-20). Each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components. (Specification, para. 0031, page 6, line 29 to page 7, line 2; para. 0034, page 7, lines 9-13). Each

of the communication components maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeating search at timed intervals. (Specification, para. 0037, page 8, lines 4-6; para. 0038, page 8, lines 12-22).

Claim 17 depends from claim 16 and recites the step of providing a self-administration based on the information ascertained by the search functions. (Specification, para. 0014, page 4, lines 6-10).

Claim 18 depends from claim 16 and recites that a plurality of search functions are contained in the communication network and in the communication components. (Specification, para. 0015, page 4, lines 11-14).

Claim 22 depends from claim 16 and recites that the client functionality is designed to retrieve an authorization before using a server functionality. (Specification, para. 0018, page 4, lines 21-23).

Claim 23 depends from claim 22 and recites that at least one server functionality is provided for managing the authorization. (Specification, para. 0019, page 4, lines 24-25).

Claim 24 depends from claim 16 and recites that the current address of all of the communication components are ascertained. (Specification, para. 0030, page 6, lines 21-28).

Claim 25 depends from claim 16 and recites that the server functionality of all of the communication components are retrieved. (Specification, para. 0030, page 6, lines 21-28).

Claim 31 depends from claim 16 and recites that one of the communication components performs a gateway search for a gateway among the neighboring communication components in the servant list. (Specification, para. 0034, page 7, lines 9-13). A first of the neighboring communication components comprises a first gateway, and returns a first hit response to said one

communication component.  (Specification, para. 0034, page 7, lines 13-16).  A second of the

neighboring communication components does not comprise a gateway, and forwards the gateway

search to additional neighboring communication components of the second neighboring

communication component.  (Specification, para. 0034, page 7, lines 16-18).  One of the

additional neighboring communication components comprises a second gateway, and returns a

second hit response to said one communication component.  (Specification, para. 0034, page 7,

lines 18-21).

Claim 32 depends from claim 31 and recites that said one of the communication

components chooses one of the gateways for use based on a respective number of available

channels on each gateway and a respective propagation time for the first and second hit

responses.  (Specification, para. 0035, page 7, lines 22-32).

**Grounds of Rejection to be Reviewed on Appeal**

1.      The rejection of claims  8-9, 14-18, 22-25 and 27-32 under 35 U.S.C. 103(a) as

obvious over U.S. Publication No. 2002/0184357 to Traversat et al. ("Traversat") in view of U.S.

Patent No. 6,065,062 to Periasamy et al. ("Periasamy") (Final Office Action, pgs. 3-16; Advisory

Action, pgs. 2-9).

**Argument**

Applicants submit the following arguments in traverse of the rejection of claims 8-9, 14-

18, 22-25, 28-29 and 31-32 set forth in the Final Office Action and the Advisory Action.

### Burden Of Proving Obviousness Under § 103

"**All words in a claim must be considered in judging the patentability of that claim against the prior art**." MPEP § 2143.03 (*emphasis added*). "When evaluating claims for obviousness under 35 U.S.C. 103, **all the limitations of the claims must be considered and given weight**." MPEP § 2143.03 (*emphasis added*). "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." Id. "A 35 U.S.C. 103 rejection is based on 35 U.S.C. 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue date." MPEP § 2141.01.

To establish a *prima facie* case of obviousness, an Examiner must show that an invention would have been obvious to a person of ordinary skill in the art at the time of the invention. MPEP § 2141. "Obviousness is a question of law based on underlying factual inquiries." Id. The factual inquiries enunciated by the Court include "ascertaining the differences between the claimed invention and the prior art" and "resolving the level of ordinary skill in the pertinent art." MPEP § 2141.

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." MPEP § 2143.01. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, **there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness**." KSR International Co. v. Teleflex Inc., 550 U.S.398, 419, 82 USPQ2d, 1385,

1396) (2007) (*citing* In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 ( Fed. Cir. 2006)

(*emphasis added*)); MPEP § 2143.01.

For instance, an invention that permits the omission of necessary features and a retention

of their function is an indicia of nonobviousness. In re Edge, 359 F.2d 896, 149 USPQ 556

(CCPA 1966); MPEP § 2144.04. A conclusory statement to the contrary is insufficient to rebut

such an indicia of nonobviousness. *See* MPEP § 2143.01.

Moreover, "[i]f the proposed modification or combination of the prior art would change

the principle of operation of the prior art invention being modified, then the teachings of the

references are not sufficient to render the claims prima facie obvious." MPEP § 2143.01. Also,

"the proposed modification cannot render the prior art unsatisfactory for its intended purpose."

MPEP § 2143.01.

### Claims 8-9, 14-18, 22-25, 28-29 and 31-32

Independent claim 8 recites, *inter alia*:

> *wherein each of the communication components searches for*
> *neighboring ones of the communication components and creates a servant list*
> *of the neighboring communication components; and*
> *wherein each of the communication components maintains the current*
> *utilization level of each server functionality of the neighboring communication*
> *components in the servant list by performing a repeating search at timed*
> *intervals.*

Similarly, independent claim 16 recites, *inter alia*:

> *wherein each of the communication components searches for*
> *neighboring ones of the communication components and creates a servant list*
> *of the neighboring communication components; and*

> *wherein each of the communication components maintains the current*
> *utilization level of each server functionality of the neighboring communication*
> *components in the servant list by performing a repeating search at timed*
> *intervals."*

Neither <u>Traversat</u> nor <u>Periasamy</u>, taken alone or in combination, disclose or suggest these claimed limitations.

It is clear from the above claim recitations that both independent claims 8 and 16 require that each of the communication components:

1. *Searches for neighboring ones of the communication components;*

2. *Creates a servant list of the neighboring communication components; and*

3. *Maintains the current utilization level of each server functionality of the*
   *neighboring communication components in the servant list by performing a*
   *repeated search at timed intervals.*

What is important in the above claim limitations is the definition provided to the term "neighboring communication component". As used in the present application, the term "neighboring communication component" is a component that is connected directly to another component. This is illustrated in the Figure of the present application and described in the specification as follows.

When component A1 performs the claimed limitations, component A1 creates a servant list of its neighboring communication components, which consist of components A2, A3, A4, B3, B4, B5 and B6. (Specification, para. 0031, page 6, line 29 to page 7, line 2). That is how a "neighboring" component is described in the application, namely, one that it is connected directly to another component. Component A1 would not create a servant list including component B10, as that component is more than one "hop" or "jump" away from component A1, and is not a

"neighboring communication component" of component A1. Then, component A1 maintains the current utilization level of each server functionality of its neighboring components which are included in the servant list by performing repeated searches at timed intervals. In this manner, say component B6 became disabled, during a repeated search at the timed interval component A1 would note the absence of component B6 and would update its servant list accordingly.

Similarly, when component B3 performs the claimed limitations, it creates a servant list of its neighboring components, including component A1 and component B10, as these are the components that are connected directly to component B3. Component B3 would not create a servant list including components A3, A2 or A4, as these components are more than one "hop" or "jump" away from component B3, and are not "neighboring communication components" of component B3. Then, component B3 maintains the current utilization level of each server functionality of its neighboring components which are included in the servant list by performing repeated searches at timed intervals. In this manner, the present invention enables each component to create lists of "neighboring communication components" to speed up subsequent search operations for resources.

These features are neither disclosed nor suggested in Traversat and Periasamy, taken alone or in combination.

In the Final Office Action and the Advisory Action, the Examiner cites various passages of Traversat as allegedly disclosing the claimed features. These includes Fig. 2 and paragraphs [0083], [0114], [0128], [0477], [0478], [0479], [0480], [0124], [0125], [0126] and [0127]. However, all of these passages of Traversat recite very generic and vague functionality present in general peer-to-peer file sharing networks and in no way disclose or suggest the claimed limitations.

The Examiner appears to equate the "peer monitoring 128" primitive of Traversat paragraph [0083] and a disclosure of low-cost information search and indexing of Traversat paragraph [0176] as disclosing the afore-mentioned claim limitations. However, the Office Action fails to provide any articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, as required by KSR International Co. v. Teleflex Inc., 550 U.S.398, 82 USPQ2d 1385 (2007).

The Examiner cites Fig. 2 and various paragraphs of Traversat that disclose the operation of peer groups within the peer-to-peer network of Traversat. However, the presently claimed invention is not concerned with the formation of peer groups for file sharing purposes. This is because the present invention permits the server functionalities of a communication component to be retrieved and used directly by the client functionalities of another communication component without the need to publish the server functionalities in a platform layer for use by other peers in the peer group, as taught by Traversat. Thus, Traversat teaches directly away from the present invention by teaching the formation and operation of peer groups.

For example, with respect to peer groups, Traversat discloses that:

- Peer groups 122 may establish a set of peers and naming within a peer group with mechanisms to create policies for creation and deletion, membership, advertising and discovery of other peer groups and peer nodes, communication, security, and content sharing. (Traversat, para. [0083]).

- Peer monitoring 128 enables control of the behavior and activity of peers in a peer group and can be used to implement peer management functions including access control, priority setting, traffic metering, and bandwidth balancing. (Traversat, para. [0083]).

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- Peers may publish and provide network resources (e.g. CUP, storage and routing resources) that may be used by other peers. (<u>Traversat</u>, para. [0114]).

- A peer may optionally cache information. (<u>Traversat</u>, para. [0114]).

- Peer groups may also create a monitoring environment. Peer groups may permit peers to monitor a set of peers for any special purpose (heartbeat, traffic introspection, accountability, etc.). (<u>Traversat</u>, para. [0128]).

- Peer monitoring may include the capability to closely keep track of a (local or remote) peer's status, to control the behavior of a peer, and to respond to actions on the part of a peer. (<u>Traversat</u>, para. [0478]).

- Peer metering may include the capability to accurately account for a peer's activities, in particular its usage of valuable resources. (<u>Traversat</u>, para. [0479]).

- In one embodiment, the peer-to-peer platform may provide monitoring and metering through the peer information protocol, where a peer can query another peer for data such as up time and amount of data handled. (<u>Traversat</u>, para. [0480]).

- Peer groups may be formed and self organized based upon the mutual interest of peers. (<u>Traversat</u>, para. [0124]).

- Peer group boundaries may define the search scope when searching for a group's content. (<u>Traversat</u>, para. [0125]).

- Peer groups may also be formed based upon the proximity of the member peers. (<u>Traversat</u>, para. [0126]).

- Proximity-based peer groups may serve to subdivide the network into abstract regions. (<u>Traversat</u>, para. [0126]).

- Peer group boundaries permit member peers to access and publish protected contents. (<u>Traversat</u>, para. [0127]).

All of the above recitations recite generic functionality and minimum primitives of peer groups common to peer-to-peer networking, as well as how the peer groups generally operate within the peer-to-peer network of <u>Traversat</u>. For example, <u>Traversat</u> confirms that peer monitoring 128 is simply a minimal primitive common to peer-to-peer networking in paragraph [0079], which states:

> In one embodiment, the peer-to-peer platform may include a core layer 120 that defines and encapsulates minimum primitives that are common to peer-to-peer networking, including, but not limited to, peers 110, peer groups 122, peer discovery 124, peer communication (e.g. pipes) 126, peer monitoring 128, and associated security primitives 130.

While <u>Traversat</u> may disclose basic functionality of the peer monitoring 128 primitive, it is devoid of any teaching or suggestion of how the peer monitoring 128 primitive performs any functionality to accomplish the basic disclosed tasks.

There is simply no disclosure in <u>Traversat</u> that teaches the searching of neighboring communication components (as that term is defined in the present application), creating a servant list of neighboring communication components, and maintaining the current utilization level of each server functionality of the neighboring communication components in the servant list by performing repeated searches at timed intervals. While <u>Traversat</u> may generically disclose that peer groups can be monitored, <u>Traversat</u> includes no disclosure of the specific claimed method of performing searching and monitoring through creating servant lists of "neighboring

communication components" and then periodically performing repeated searches to maintain

utilization levels, as claimed. Such generic disclosures of the results (*e.g.*, monitoring) cannot

teach specifically claimed methodology of how to achieve the results (*e.g.*, specific steps of

performing monitoring).

Traversat is devoid of any teaching or suggestion of searching neighboring

communication components to create servant lists, and updating those servant lists with the

current utilization level of each server functionality at timed intervals. A peer group in Traversat

may be infinite. Traversat makes no distinction between neighboring components and other

components. For example, at paragraph [0082], Traversat states that "[a] peer group may

theoretically be as large as the entire collected universe." It is for this reason that while query

messages may be forwarded from one rendezvous node, or peer, to another, Traversat

implements a "time-to-live", or time-out parameter to limit query forwarding. This is because a

search query can be propagated in Traversat so many times that it is repeated exponentially.

This is due to the peer group in Traversat being as large as any connected universe. For

example, with respect to the time-to-live parameter, paragraph [0028] of Traversat states:

> Each discovery query message may include a time-to-live (TTL)
> indicator. TTL's may also help limit the propagation of requests
> within the network. The TTL may indicate a length of time during
> which the resource advertisement is valid. The rendezvous nodes
> receiving the discovery query message may decrement the time-to-
> live indicator to reflect the current time-to-live. When the TTL
> expires, the discovery query message may be deleted or
> invalidated.

In contrast, the present invention queries only neighboring components to create a servant

list. Components that are not neighboring, in the sense as used in the present application, will

not be queried, but will be included in other components' servant lists for which they are a

"neighbor". The servant lists are updated to reflect the current utilization level of each server

functionality of the neighboring communication components by performing a repeated search at

timed intervals. The Final Office Action and the Advisory Action ignore these limitations and

do not provide the requisite reasoning and rationale to support an obviousness rejection.

To support an obviousness rejection, MPEP § 2143.03 requires that "[a]ll words in a

claim must be considered in judging the patentability of that claim against the prior art." Further,

MPEP § 2141.02 requires "interpreting the claim language, and considering both the invention

and the prior art references as a whole." "[R]ejections on obviousness cannot be sustained by

mere conclusory statements; instead, **there must be some articulated reasoning with some**

**rational underpinning to support the legal conclusion of obviousness.**" KSR International

Co. v. Teleflex Inc., 550 U.S.398, 419, 82 USPQ2d, 1385, 1396) (2007) (*citing* In re Kahn, 441

F.3d 977, 988, 78 USPQ2d 1329, 1336 ( Fed. Cir. 2006) (*emphasis added*));  MPEP § 2143.01.

Because the Final Office Action and the Advisory Action do not specifically address the claim

limitations of independent claims 8 and 16 discussed above, the obviousness rejection in

improper and should be reversed.

Accordingly, for at least those reasons articulated above, independent claims 8 and 16 are

believed allowable over the prior art.

Dependent claims 9, 14-15, 28-29 and 17-18, 22-25, 31-32 depend cognately from

independent claims 8 and 16, respectively, and also contain the limitations discussed above.  For

at least the above articulated reasons, these dependent claims are also believed allowable over

the prior art.

## Conclusion

For at least the above reasons, reversal of the rejections of claims 8-9, 14-18, 22-25, 28-29 and 31-32 and allowance of these claims is respectfully requested.

It is believed that this Appeal Brief requires a one-month extension of time. Accordingly, a petition for a one-month extension of time, which also authorizes payment of the fee to be charged to our firm's credit card, is submitted herewith. If additional fees are required for any reason, the Commissioner is hereby authorized to charge Deposit Account 02-4800 the necessary amount.

Respectfully submitted,

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Dated: August 17, 2010

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**Claims Appendix**

The claims on appeal are:

8. A communication network comprising:

a plurality of communication components, at least some of which comprise both client and server functionalities, at least some of the client functionalities including a search function that ascertains network addresses of others of the communication components that allow the server functionalities of the others to be used; and

a retrieval mechanism in said at least some of the client functionalities that obtains information about the server functionalities of said other communication components;

wherein the server functionalities provide usable services in the communication network;

wherein a server functionality is selected for use by a client functionality using a state information comprising a current utilization level of each of the server functionalities and the cost to use each of the server functionalities;

wherein each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components; and

wherein each of the communication components maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeating search at timed intervals.

9. The communication network as claimed in Claim 8, wherein the communication network provides for a self-administration on the basis of the information ascertained by the search functions.

14. The communication network as claimed in Claim 8, wherein the client functionality is designed to retrieve an authorization before using a server functionality.

15. The communication network as claimed in Claim 14, wherein at least one server functionality is provided for managing the authorization.

16. A method of communication within a network, comprising:

providing a plurality of communication components with both client and server functionalities;

ascertaining via a search function of the client functionality of at least some of the communication components an address of at least some others of the communication components that allow the server functionalities of said some others to be used; and

retrieving information about the server functionality of said some others of the communication components by the client functionality of said at least some of the communication components;

wherein the server functionalities provide services in the communication network,

wherein one of the server functionalities is selected for use by one of the client functionalities using a state information comprising a current utilization level of each of the server functionalities and the cost to use each of the server functionalities;

wherein each of the communication components searches for neighboring ones of the communication components and creates a servant list of the neighboring communication components; and

wherein each of the communication components maintains the current utilization level of each server functionality of the neighboring communication components in the servant list by performing a repeating search at timed intervals.

17. The method as claimed in Claim 16, further comprising providing a self-administration based on the information ascertained by the search functions.

18. The method as claimed in Claim 16, wherein a plurality of search functions are contained in the communication network and in the communication components.

22. The method as claimed in Claim 16, wherein the client functionality is designed to retrieve an authorization before using a server functionality.

23. The method as claimed in Claim 22, wherein at least one server functionality is provided for managing the authorization.

24. The method as claimed in Claim 16, wherein the current address of all of the communication components are ascertained.

25.     The method as claimed in Claim 16, wherein the server functionality of all of the communication components are retrieved.


28.     The communication network as claimed in Claim 8, wherein:

one of the communication components performs a gateway search for a gateway among the neighboring communication components in the servant list;

a first of the neighboring communication components comprises a first gateway, and returns a first hit response to said one communication component;

a second of the neighboring communication components does not comprise a gateway, and forwards the gateway search to additional neighboring communication components of the second neighboring communication component; and

one of the additional neighboring communication components comprises a second gateway, and returns a second hit response to said one communication component.


29.     The communication network as claimed in Claim 28, wherein said one of the communication components chooses one of the gateways for use based on a respective number of available channels on each gateway and a respective propagation time for the first and second hit responses.


31.     The method as claimed in Claim 16, wherein:

one of the communication components performs a gateway search for a gateway among the neighboring communication components in the servant list;

a first of the neighboring communication components comprises a first gateway, and returns a first hit response to said one communication component;

a second of the neighboring communication components does not comprise a gateway, and forwards the gateway search to additional neighboring communication components of the second neighboring communication component; and

one of the additional neighboring communication components comprises a second gateway, and returns a second hit response to said one communication component.

32.     The method as claimed in Claim 31, wherein said one of the communication components chooses one of the gateways for use based on a respective number of available channels on each gateway and a respective propagation time for the first and second hit responses.

**Evidence Appendix**

None.

**Related Proceedings Appendix**

None.